



AUTODESK/AUTOCAD TRAINING

Autodesk Inventor

Master 3D mechanical design with Autodesk Inventor. Create complex parts, assemblies, and drawings for innovative product development.

DURATION

Flexible

LEVEL

Intermediate

FORMAT

Instructor-Led

- Globally Recognized Certification

- Expert-Led Hands-On Training

- Flexible Scheduling

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COURSE OVERVIEW

This intermediate Autodesk Inventor course is meticulously designed for professionals aiming to elevate their 3D CAD modeling and digital prototyping skills. You will delve deep into the powerful parametric modeling capabilities of Inventor, moving beyond basic part creation to master complex assemblies, advanced surfacing, and detailed documentation. The curriculum emphasizes practical application, ensuring you can tackle real-world design challenges with confidence and precision. By the end of this course, you will be proficient in leveraging Inventor's full potential for innovative product development and manufacturing preparation.

Participants will gain a comprehensive understanding of core technologies such as parametric feature-based solid modeling, assembly design with advanced constraints, robust drawing creation, and foundational simulation tools. The benefits extend to significantly improving design efficiency, reducing the need for costly physical prototypes through digital validation, and enhancing collaboration within engineering teams. This expertise is crucial for roles requiring precise mechanical design, efficient product iteration, and clear communication of design intent in diverse industrial sectors.

Level	Intermediate
Vendor	Autodesk/AutoCAD

COURSE CURRICULUM

01 Module 1: Advanced Sketching and Part Modeling Techniques

- Review of fundamental sketching tools and constraints
- Advanced sketch geometries: Splines, text, and blocks
- Adaptive sketches and parameters for design intent
- Complex feature creation: Sweeps, lofts, coils, and thread features
- Multi-body solid modeling workflows
- iFeatures and feature suppression for design variations

02 Module 2: Mastering Assembly Design and Management

- Bottom-up vs. top-down assembly design strategies
- Advanced assembly constraints and joint connections
- Working with adaptive parts and sub-assemblies
- Utilizing Design Accelerator for standard components (gears, shafts, fasteners)
- Managing large assemblies: Levels of detail, shrinkwrap, and design views
- Basic interference analysis and contact sets

03 Module 3: Professional Drawing and Documentation

- Creating detailed 2D drawings from 3D models
- Advanced drawing views: Section, detail, broken, and auxiliary views
- Dimensioning and annotation standards (ANSI, ISO)
- Generating Bill of Materials (BOM) and parts lists
- Customizing drawing templates and title blocks
- Publishing drawings to various formats (PDF, DWG)

04 Module 4: Sheet Metal Design and Fabrication

- Introduction to the sheet metal environment
- Creating sheet metal parts: Face, contour flange, hem, bend
- Working with punches and cutouts
- Flat pattern generation and bend tables

- Converting standard parts to sheet metal
- Exporting flat patterns for manufacturing

05 Module 5: Introduction to iLogic and Design Automation

- Understanding iLogic rules and parameters
- Creating forms and user interfaces
- Automating design changes and configurations
- Using iParts and iAssemblies for family of parts/assemblies
- Table-driven design for product variations
- Basic programming concepts for design automation

06 Module 6: Visualization and Basic Simulation Tools

- Creating realistic renderings and animations
- Exploded views and presentation files for assembly instructions
- Introduction to Inventor Studio for high-quality images
- Basic stress analysis using Inventor Nastran In-CAD (overview)
- Weight analysis and material properties
- Collaboration tools: Design reviews and markups

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Mechanical Design Engineer (specializing in industrial machinery and equipment)**
- > **Product Development Specialist (focused on consumer goods and electronics prototyping)**
- > **Automotive Component CAD Modeler (designing and validating vehicle parts and sub-assemblies)**

FREQUENTLY ASKED QUESTIONS

Q: What are the recommended prerequisites for enrolling in this intermediate Autodesk Inventor course?

Participants should have a foundational understanding of basic CAD principles and some prior experience with 2D sketching and simple 3D part modeling, ideally within Autodesk Inventor or a similar parametric CAD software. Familiarity with mechanical design concepts and engineering drawings will also be beneficial to maximize learning from the advanced topics covered in this course.

Q: How will this course enhance my ability to design and manage complex product assemblies?

This course specifically focuses on advanced assembly strategies, including both bottom-up and top-down design approaches. You will learn to manage intricate constraint systems, utilize adaptive components, and leverage Design Accelerators for standard parts. Additionally, you'll gain skills in managing large assemblies using levels of detail and performing basic interference analysis, significantly improving your capability to handle complex product structures efficiently and accurately.

Q: Upon completion, what kind of advanced projects or design challenges will I be equipped to tackle?

After completing this course, you will be well-equipped to undertake a wide range of advanced design projects. This includes designing and detailing complex industrial machinery, developing intricate sheet metal enclosures, creating

configurable product families using iLogic and iParts, and generating comprehensive manufacturing documentation for multi-component products. You will also be able to produce high-quality visualizations and perform basic design validation, preparing you for roles that demand high-level proficiency in mechanical design and digital prototyping.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

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10,000+

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Take the next step in your technology career.

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